Warning!

THE CLARION OHM653 OVERHEAD VIDEO MONITOR IS DESIGNED TO BE VIEWED BY REAR-SEAT OCCUPANTS ONLY!

CLARION VIDEO PRODUCTS ARE NOT INTENDED FOR VIEWING BY THE DRIVER WHILE THE VEHICLE IS IN MOTION. SUCH USE MAY DISTRACT THE DRIVER OR INTERFERE WITH THE DRIVER'S SAFE OPERATION OF THE VEHICLE, AND THUS RESULT IN SERIOUS INJURY OR DEATH. SUCH USE MAY ALSO VIOLATE STATE LAW.

CLARION DISCLAIMS ANY LIABILITY FOR ANY BODILY INJURY, INCLUDING FATALITIES, OR PROPERTY DAMAGE THAT MAY RESULT FROM ANY IMPROPER OR UNINTENDED USES OF THIS PRODUCT.

About Installation

Installation of mobile audio and video components requires experience with a variety of mechanical and electrical procedures. Even though this manual provides general installation and operation instructions for your new Clarion OHM653 Overhead Video Monitor, it does not show the exact installation methods for your particular vehicle.

If you do not have the required knowledge and experience to successfully complete the installation, we strongly recommend consulting an authorized Clarion dealer about professional installation options.

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1. INTRODUCTION

The Clarion OHM653 is a high-performance video monitor designed specifically for the mobile environment. It is intended for use with other Clarion multimedia products, and can also be integrated with many other products as part of a complete mobile video solution. With two video inputs, the OHM653 can support simultaneous connection to both dedicated video source units and optional audio/video components such as camcorders or videogames. The infrared remote control receiver output allows integration with select Clarion DVD and VHS source units.

The OHM653 automatically switches to operate with either NTSC or PAL video signals (NTSC is the standard North American video format).

The 16:9 aspect ratio screen allows DVD films to be viewed in their original aspect ratio for the best cinematic experience.

Note:

- *The OHM653 is designed to be a component in a full audio/video system. If you have any questions about compatible components, such as system controllers, source units, FM modulators, or other audio/video products, please contact your authorized Clarion dealer.*

What is included with the OHM653

- The OHM653 overhead monitor unit
- The wiring harnesses
- A mounting bracket
- A soft trim ring
- Owner's Manual / Installation Guide

FCC Approval

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to consult the dealer or an experienced radio/TV technician for help.

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2. CARE AND MAINTENANCE

Liquids and the OHM653

Keep all liquids, including beverages and cleaning liquids, away from the OHM653. Liquids inside the monitor can damage the electronics, and result in electrical shock or fire. If the unit should become wet, turn off all power and contact an authorized Clarion dealer to have the monitor inspected.

Servicing the OHM653

In the event that trouble arises, never open the case or disassemble the unit. The internal parts are not serviceable by the user. Opening any components will void the warranty.

CAUTION!

Changes or modifications to this product not approved by the manufacturer will void the warranty and will violate FCC approval.

4. USING THE OHM653

In order to operate the OHM653, the vehicle ignition key switch must be in the ACC or RUN position.

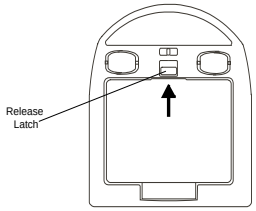
ACC or engine ON position

WARNING!

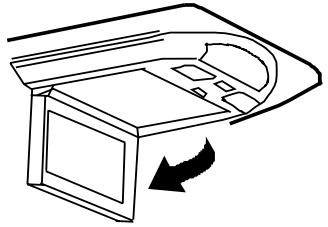
To prevent the battery from going dead, operate this unit with the engine running, if possible.

Deploying the fold-down monitor

1 Slide the release latch in the direction of the arrow on the latch. The monitor will deploy about one inch.



2 Pull the monitor down into the viewing position. Grasp the monitor by the edges - do not press on the screen.



Using the dome lights

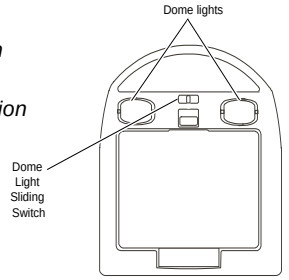
The OHM653 has built-in dome lights which may replace the original ceiling-mounted lights in some installations. These lights illuminate when the doors are open and go out when the doors are closed (some vehicles have domelight-delay systems that keep the light illuminated for a few seconds after the doors are closed). The OHM653's lights may be manually turned on and off with a sliding switch built into the monitor.

WARNING!

To prevent the battery from going dead, do not leave the dome light switch in the ON position for long periods of time without the engine running.

Dome Light Switch Positions:

On -	*ON, left position*
Door-controlled -	*Center position*
Off -	*OFF, right position*



Optional Infrared Wireless Headphones

The OHM653 has a built-in infrared audio transmitter to accomodate optional wireless headphones. These are available from your authorized Clarion dealer (P/N WH100).

Using the Remote Control

The OHM653 comes with a remote control (P/N RCBOHM653) that is required for basic operation of the monitor. The OHM653 also supports the remote controls of selected optional Clarion multimedia source units. This allows the user to control the source unit with the source unit remote, even if the source unit is mounted out of sight in a trunk or under a seat.

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Note:

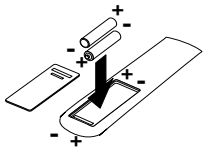
- *The OHM653 remote is always required to control the monitor - source unit remote controls do not operate the OHM653.*

To use remote controls with the OHM653, point the remote at the face of the deployed screen when pressing the buttons.

The RCBOHM653 Remote Control

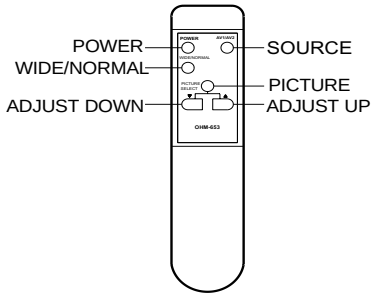
Before use, the 2 (AAA) batteries included must be inserted into the remote control. Make certain that the batteries are inserted according to the (+) and (-) marks on the inside of the battery compartment.

Slide the battery door off and insert the batteries as shown.



Notes:

- *The batteries should last about 6 months in normal use. Remove leaking batteries immediately. Store the remote in a cool dark place when not in use.*



The **[POWER]** button turns the OHM653 on and off.

Notes:

- *Even after the OHM653 is switched on, the screen remains dark until a video signal is detected.*
- *When the ignition switch is turned off, the OHM653 automatically shuts off. The next time the ignition switch is turned on, the OHM653 will remain off until the **[POWER]** button is pressed.*

The **[SOURCE]** button selects between the two sets of audio/ video inputs of the OHM653.

Note:

- *If only one of the inputs is used, the screen will remain dark when the unused input is selected.*

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The **[WIDE/ NORMAL]** button changes the display mode from "wide" 16:9 mode to "normal" 4:3 mode.

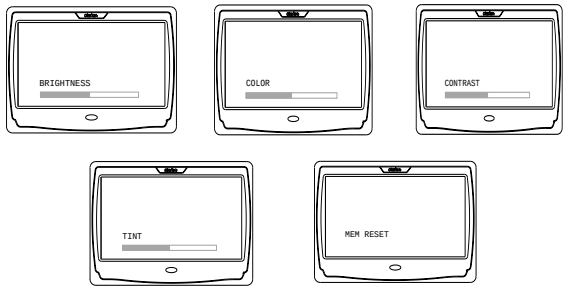
Note:

- *When using a DVD player as the source unit, make sure that the DVD player's output mode is set to "Wide" or "16:9", so that it will generate a video signal that can take advantage of the OHM653's aspect ratio. When using this display with sources that generate a "normal", 4:3 image signal, such as videogames and videocassette players, the **[WIDE/NORMAL]** button will "stretch" the image to fit the screen. In this case, some minor image distortion may be visible.*

The **[PICTURE]** button accesses the display adjustment menus. Each time this button is pressed, the unit will step to the next setting mode, and the screen will display the value of the selected setting. These adjustment settings are:

Brightness
Contrast
Color
Tint
Mem Reset (resets above to original values)

Change the value of each setting by pressing the **[+]** and **[-]** buttons. Each setting has 42 steps of adjustment range.



Notes:

- *When the "MEM RESET" option is displayed on the screen, pressing **either** the **[+]** or **[-]** buttons will reset all settings to their original factory values. If you do not wish to reset the settings, either press the **[PICTURE]** button again, or wait for the monitor to exit the picture adjustment mode automatically.*
- *If the "MEM RESET" option is used and the OHM653 is set to Source 2, the monitor will revert to the default setting of Source 1. If there is no active input on Source 1, the screen may go dark. If this happens, press the **[SOURCE]** button to switch the monitor back to Source 2.*

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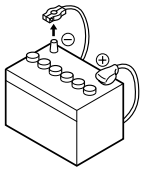
6. INSTALLATION AND WIRING

1. Before Starting

Read these instructions and the following precautions carefully.

WARNING!

Be sure to disconnect the battery (-) terminal before starting. This is to prevent short circuits during installation.



Precautions

- This unit is exclusively for cars with a negative ground, 12V power supply.
- Do not open the case. There are no user-serviceable parts inside. If you require asistance, consult your Clarion dealer or an authorized Clarion service center.
- Use a soft, dry cloth to clean the screen. Never use a rough cloth, thinner, benzene, alcohol, or other solvent. The screen surface is easy to scratch - do not rub when cleaning.

2. Package Contents

1 OHM653 overhead monitor unit
2 Soft trim ring
3 Mounting bracket
4 Wiring harnesses
5 Remote control
6 Owner's Manual / Installation Guide

3. Installation Requirements

WARNING!

Never install this monitor where it is visible from the driver's seat, or where it could injure any vehicle occupant in case of an accident. Ensure that your installation does not create risk of head-strike injury, and that the monitor will remain securely mounted in the case of an accident or sudden maneuver.

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4. Installing the OHM653

Prepare the vehicle for installation by carefully removing vehicle interior trim panels as necessary. Route wire harnesses away from sharp edges, and ensure that no harnesses will be pinched or pierced during reassembly.

Temporarily remove the OHM653 dome light lenses and bulbs, so that the rear mounting screws can be accessed.

Note:

- *The wiring of the OHM653 must be completed, and the wiring harness plugged in, prior to the final installation of the monitor into the ceiling. However, since some vehicles will require custom work or other modifications, this manual discusses physical installation first. Always complete your wiring before final assembly of the monitor into the ceiling of the vehicle.*

Selecting the Monitor Location

Location of the overhead monitor varies by vehicle, but is typically on the center line of the vehicle and just aft of the front seats, often displacing the factory dome light. Always install the overhead console to the existing roof cross beams.

Before you begin installation of the overhead console, remove the vehicle dome light and partially drop the headliner to verify that you have sufficient clearance and access to a roof beam.

Note:

- *In many vehicles, the OHM653 will displace the original dome light - for this reason, the OHM653 has dome lights built in which can replace the original lights.*

WARNING!

Never install any overhead monitor such as to create a potential head strike danger for the vehicle occupants. Avoid mounting it too far forward in the vehicle - always ensure that the front-seat occupants cannot hit their heads on a monitor when it is deployed.

The Installation Process

WARNING!

Make sure that the screws you use to mount the bracket, monitor, or optional spacer are not too long! If the screws are too long, they could damage the roof of the vehicle. Take great care when planning this part of the installation.

1. Remove the vehicle dome light and the trim on the outer edges of the headliner. Determine the location of the roof beam(s), which will help you determine the monitor location. ***Ensure that the installation can be successfuly completed before continuing!***

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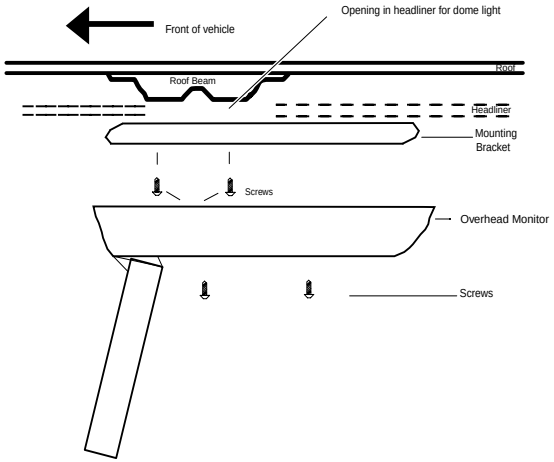
2. Determine if the mounting bracket can be attached to the roof beam through the dome light opening in the headliner. This depends on the amount of space between the headliner and the roof beam.

Exploded view - mounting through dome light opening

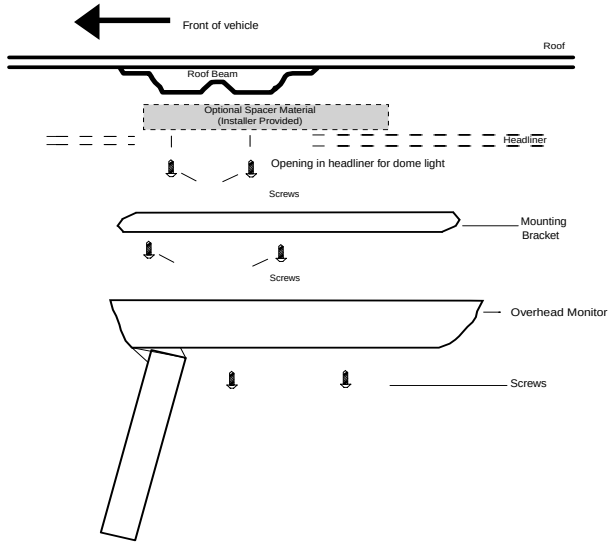


Note:

- *If there is too much space between the roof beam and the headliner, the headliner could crush and wrinkle when the monitor and bracket are assembled. Verify all clearances to prevent damage to the vehicle or the interior trim!*

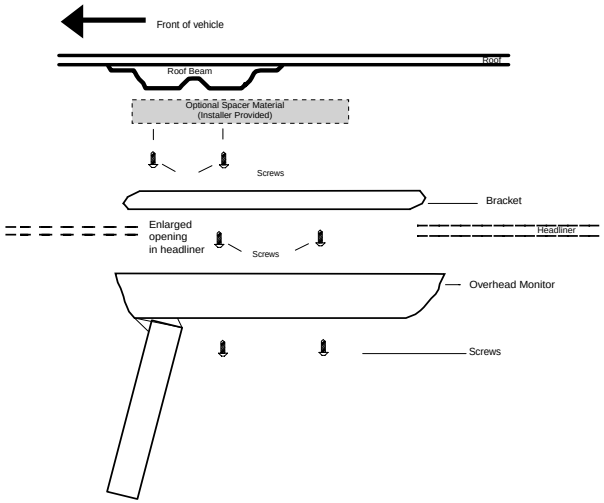
3. A mounting spacer may be used to strengthen the installation and to take up any gap between the headliner and the roof beam. Screw the spacer to the roof beam, and screw the bracket to the spacer.

Exploded view - mounting using a spacer:

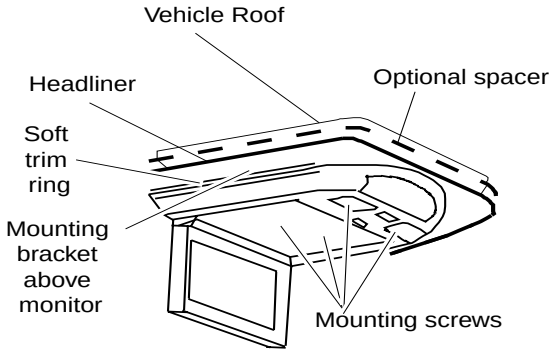


4. In some installations, the vehicle headliner must modified, and the bracket must be sandwiched between the headliner and the roof. ***If the headliner must be modified, ensure that the opening will be smaller than the footprint of the OHM653.*** If modifying the headliner, cut the headliner using a knife with a sharp blade.

Exploded view - mounting w/bracket above headliner:



5. When you have determined the type of installation you will be performing and made any needed modifications, install the wiring harnesses as needed and plug them into the monitor. Deploy the monitor to access the front two screw openings, and remove the dome light lenses and bulbs to access the rear two openings. Install the monitor into the vehicle. ***Hand-tighten the screws - do not overtighten!***



WARNING!

Make sure that the screws you use to mount the bracket, monitor, or optional spacer are not too long! If the screws are too long, they could damage the roof of the vehicle.

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5. Wiring the OHM653

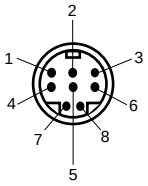
The following pages display wiring diagrams for various OHM653 configurations.

Read the following precautions before wiring your system.

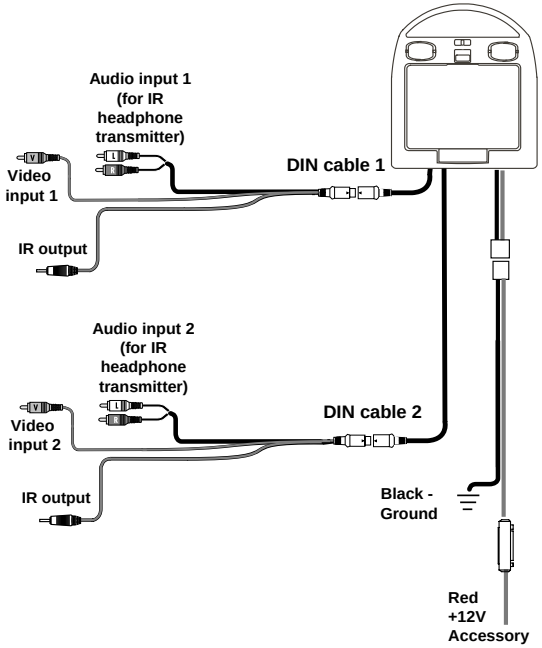
- Disconnect the negative battery terminal before making any wiring connections.
- Be particularly careful where you route wires. Keep them away from the engine, exhaust system, etc. Heat may damage wires. Sharp edges can pierce wire insulation and cable jackets, causing short circuits, damage to the vehicle, blown fuses, and system failure.
- If the fuse should blow, make sure all connections are correct and no wires are damaged before replacing the fuse. Always use fuses that are the same amperage value as the original. When replacing a fuse, never let the battery side touch any metal part or any other wire.

DIN Connector pin assignments

Pin	*Description*
1	DC 12V (+) ACC
2	Infrared receiver signal
3	DC Ground (-)
4	Video signal in
5	A/V signal ground
6	Audio R signal in
7	Not used
8	Audio L signal in



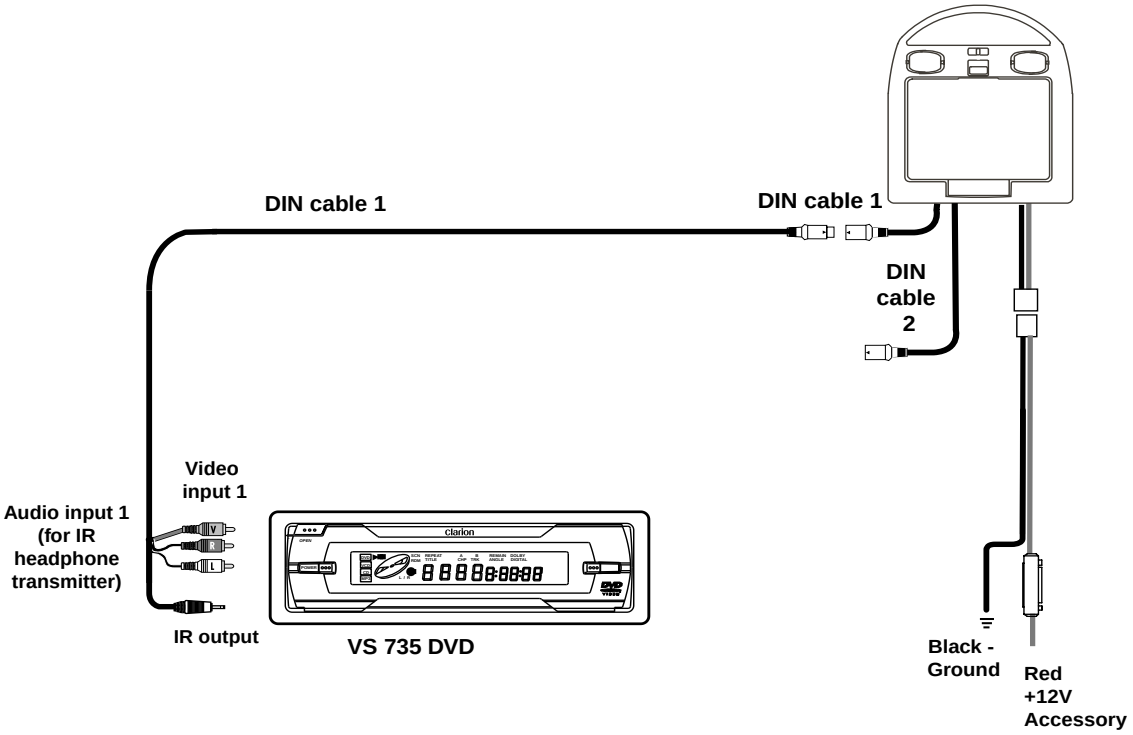
OHM653 wiring harnesses:



Note:

- *For dome light wiring connections, see page 14.*

OHM653 with VS735 DVD



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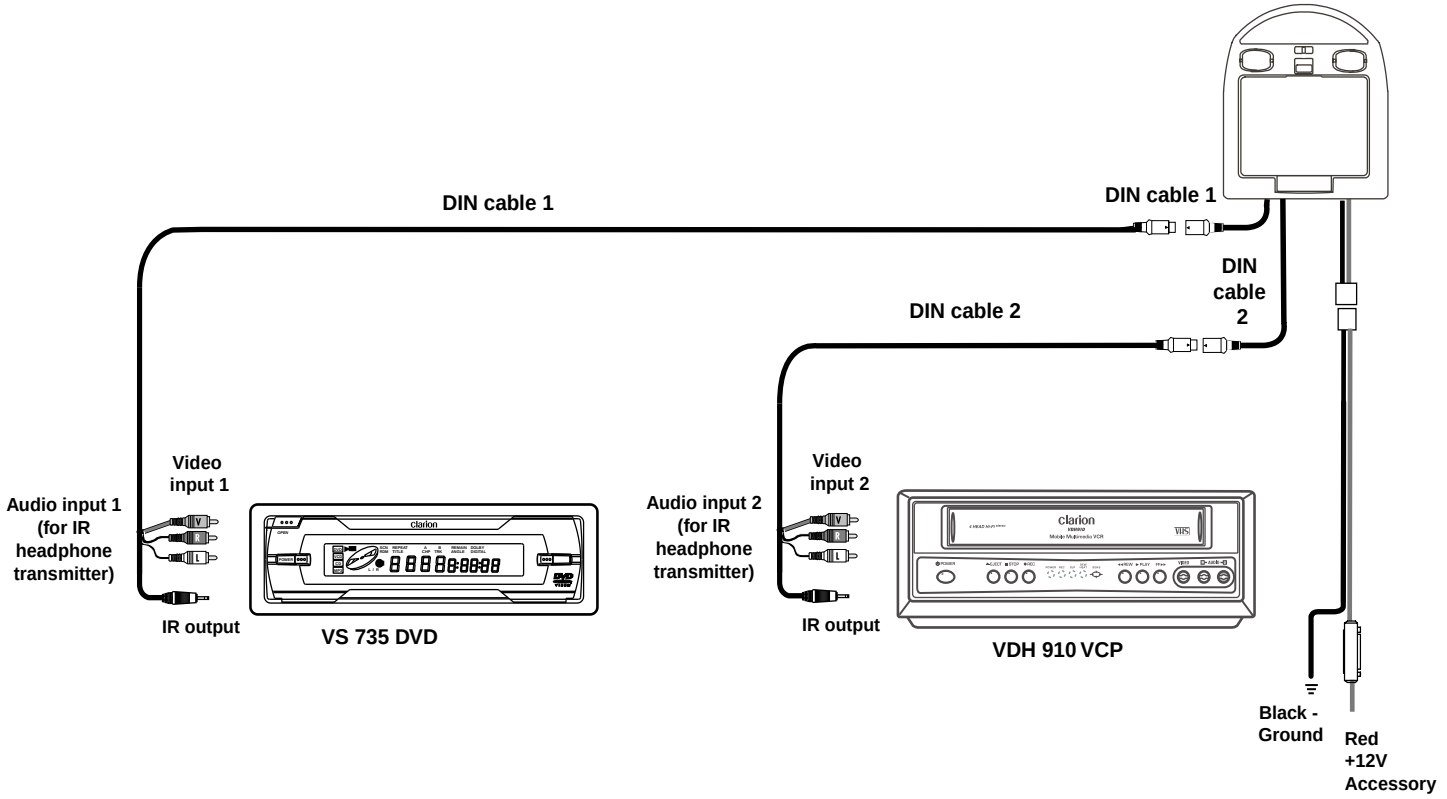
OHM653 with VS735 DVD and VDH910 VCP



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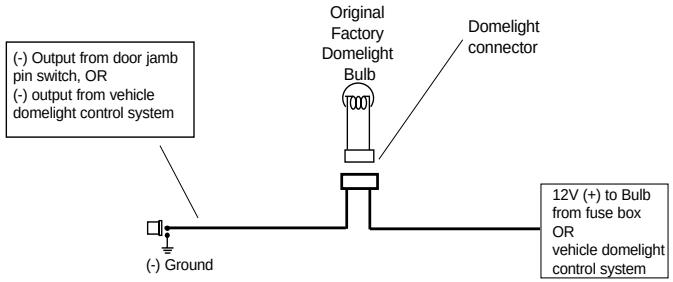
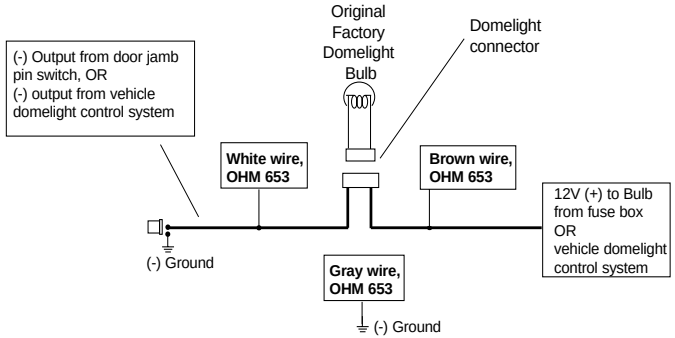
Dome Light Wiring Connections:

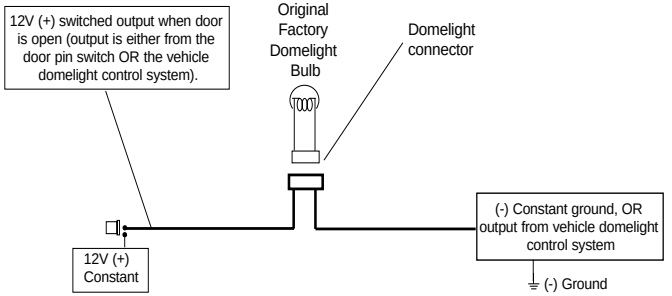
Negative-trigger dome light system:


(-) Output from door jamb pin switch, OR (-) output from vehicle domelight control system
Original Factory Domelight Bulb
Domelight connector
12V (+) to Bulb from fuse box OR vehicle domelight control system
(-) Ground

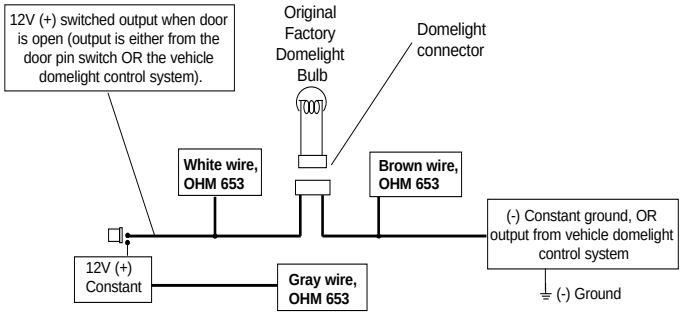
Negative-trigger OHM 653 dome light wiring:


(-) Output from door jamb pin switch, OR (-) output from vehicle domelight control system
Original Factory Domelight Bulb
Domelight connector
White wire, OHM 653
Brown wire, OHM 653
12V (+) to Bulb from fuse box OR vehicle domelight control system
(-) Ground
Gray wire, OHM 653
(-) Ground

Positive-trigger dome light system:


12V (+) switched output when door is open (output is either from the door pin switch OR the vehicle domelight control system).
Original Factory Domelight Bulb
Domelight connector
(-) Constant ground, OR output from vehicle domelight control system
12V (+) Constant
(-) Ground

Positive-trigger OHM 653 dome light wiring:


12V (+) switched output when door is open (output is either from the door pin switch OR the vehicle domelight control system).
Original Factory Domelight Bulb
Domelight connector
White wire, OHM 653
Brown wire, OHM 653
(-) Constant ground, OR output from vehicle domelight control system
12V (+) Constant
Gray wire, OHM 653
(-) Ground

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6. TROUBLESHOOTING

No picture.

Press the **[POWER]** and **[SOURCE]** buttons to make sure the monitor is on and the proper input is selected.

If there is still no picture, press the **[PICTURE]** button. *If the menu appears*, check the source unit and video connections. *If no menu appears*, check all fuses and power connections to the OHM653 and the associated equipment.

Note:

- *The OHM653 has an operating temperature range of 5º C to 40º C (41º F to 104º F). If the temperature is outside this operating range, the unit will not turn on, or the screen may be slow to react to image changes. The monitor will function normally once it returns to its proper operating temperature range.*

With a DVD player and a widescreen DVD disc, there are black bars on the screen.

Change the TV display mode to "Wide" in the DVD player's Setup menu.

After changing this setting, if there are still black bars, press the **[WIDE/NORMAL]** button on the OHM653 remote control.

7. SPECIFICATIONS

Supply voltage: 12V DC (9V-16V)

Test voltage: 12V, negative ground

Current consumption: Less than 800 milliAmps

Operating Temperature: 5º C to 40º C (41º F to 104º F)

Signal system: NTSC and PAL composite video 1.0V p-p

Screen: 6.5" diagonal, 144.4mm x 80.3 mm.

Resolution: 1200 x 280 (280,000 pixels)

Weight: 2.2 lb, 1.0 kg

Note:

- *The technical data and the design of the equipment may change for the sake of technical improvements without prior notice.*

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LIMITED WARRANTY INFORMATION

For USA and Canada only

This product is warranted against all defects in material workmanship for a period of one year from the date of original purchase. Clarion ProAudio products, except for speakers, are covered by a two year limited warranty when installed by an authorized Clarion dealer. The conditions of this limited warranty and the extent of responsibility of Clarion Corporation of America ("Clarion") under this limited warranty are as follows:

1. PROOF OF DATE OF PURCHASE WILL BE REQUIRED FOR WARRANTY SERVICE OF THIS PRODUCT. IN THE CASE OF THE TWO (2) YEAR LIMITED WARRANTY FOR CLARION PROAUDIO PRODUCT, PROOF OF INSTALLATION BY AN AUTHORIZED DEALER IS REQUIRED. INFORMATION ABOUT CLARION AUTHORIZED WARRANTY SERVICE CENTERS MAY BE OBTAINED BY CONTACTING CLARION AT THE ADDRESS BELOW.
2. This limited warranty will become void if service performed by anyone other than an approved Clarion Warranty Service Center results in damage to the product.
3. This limited warranty does not apply to any product which has been subject to misuse, neglect or accident, or which has had the serial number altered, defaced or removed, or which has been connected, installed, adjusted or repaired, other than in accordance with the instructions furnished by Clarion.
4. This limited warranty does not cover car static or other electrical interferences, tape head or laser pick-up cleaning or adjustments, or labor costs for the removal or reinstallation of the unit for repair.
5. The sole responsibility of Clarion under this limited warranty shall be limited to the repair of the product or replacement of the product, at the sole discretion of Clarion.
6. Product must be shipped in its original carton or equivalent carton, fully insured, with shipping charges prepaid. Clarion will not assume any responsibility for any loss or damage incurred in shipping.
7. ALL IMPLIED WARRANTIES EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW SHALL HAVE NO GREATER DURATION THAN THE WARRANTY PERIOD SET FORTH ABOVE. UNDER NO CIRCUMSTANCES SHALL CLARION BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT. BECAUSE SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR EXCLUSIONS OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.
8. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
9. Should you have any difficulties with the performance of this product during the warranty period, please call or visit our web site (www.clarion.com) for a listing of Authorized Warranty Service Centers in your area. You may also contact Clarion at the address listed below.

In USA:
Clarion Corporation of America
Attn: Customer Service Manager
661 W. Redondo Beach Blvd
Gardena, CA. 90247-4201
1-800-GO-CLARION
(310)327-9100
www.clarion.com

In Canada:
Clarion Canada, Inc.
Warranty Service Center
2239 Winston Park Drive
Oakville, Ontario L6H 5R1
(905)829-4600
www.clarioncanada.com

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